

VARIABLE FREQUENCY RADIO FREQUENCY IDENTIFICATION (RFID) TAGS

ABSTRACT

Various radio frequency identification (RFID) tags are described that dynamically vary their resonant frequency to reduce or eliminate the potential effects of electromagnetic “tag-to-tag” coupling. An RFID tag, for example, includes a main antenna tuned to a first resonant frequency, and switching circuitry that dynamically changes the resonant frequency of the main antenna. The switching circuitry may selectively couple electrical elements, such as capacitive elements, inductive elements, or combinations thereof, to vary the resonant frequency of the RFID tag. The RFID tag may include a sensing circuit that determines when to selectively couple the electrical element to the main antenna to adjust the resonant frequency of the main antenna.